

CALIFORNIA DEBT AND INVESTMENT  
ADVISORY COMMISSION

*Presents*

Investing Public Funds:  
Fundamentals of  
Managing Your Portfolio

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Sheraton Gateway San Francisco Airport  
Burlingame, CA

# Benchmarking for Performance

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# What Is a Benchmark?

- Tool to measure performance
- Tool to set direction

*“How do you know when you’ve gotten there if you don’t know where you’re going?”*



# Purpose of a Portfolio Performance Benchmark

- Help you define performance priorities
  - Safety
  - Liquidity
  - Yield
- Help you quantify performance priorities
  - Yield
  - Income
  - Total return
- Helps you establish a long-term strategy for the portfolio

## What Do Benchmarks Do?

- Measure and evaluate relative investment performance
- Provide for comparison of risk and return
- Evaluate investment strategy





## Selecting an Appropriate Benchmark

- A benchmark should:

- Be an independent representation
- Reflect asset mix, credit quality, and average maturity or duration of the portfolio
- or
- Be a baseline, such as a U.S. Treasury Index

*The benchmark should not lead to taking inappropriate risks to outperform the benchmark.*



# Selecting an Appropriate Benchmark

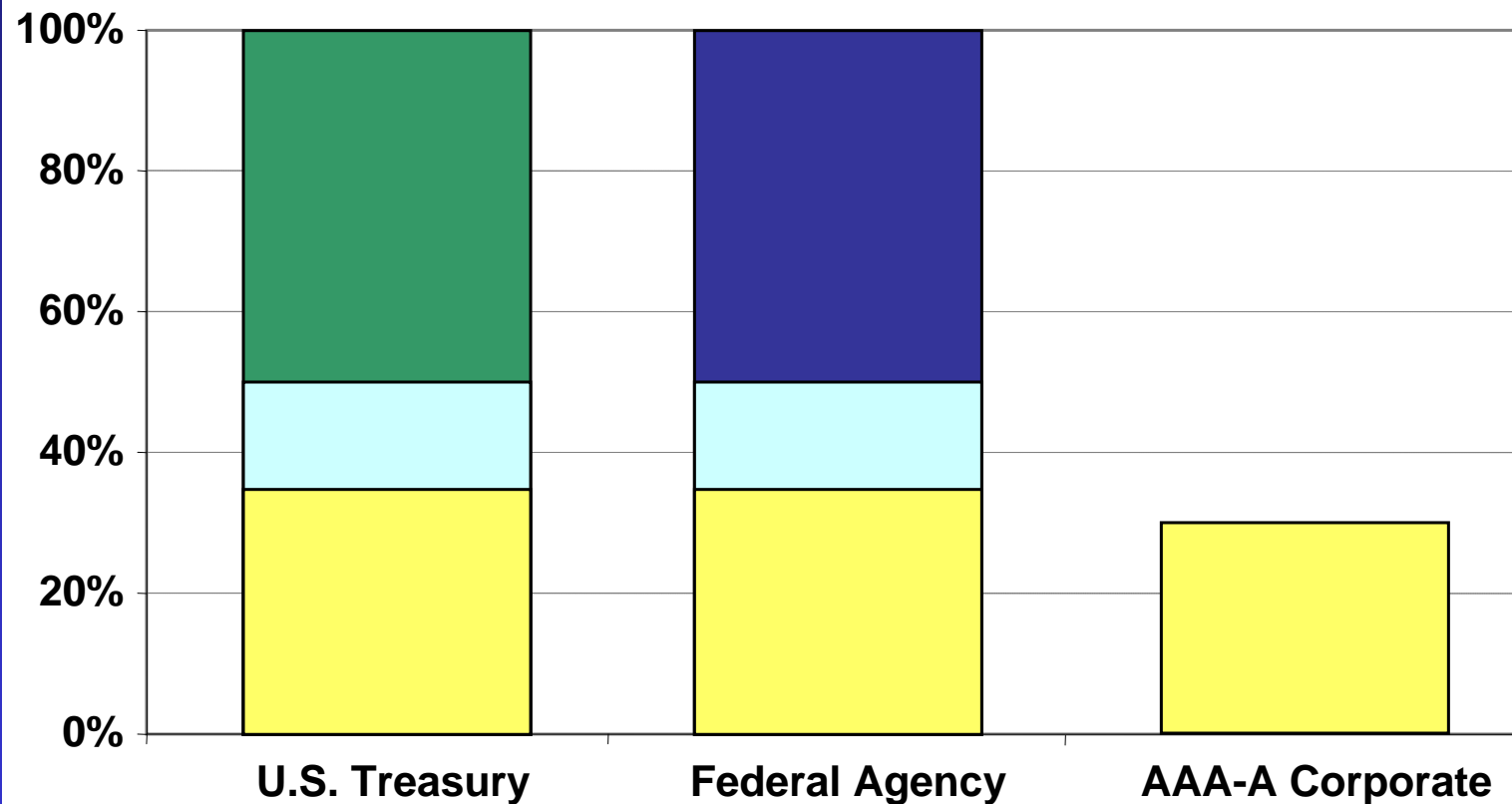
## ■ What are the portfolio's priorities?

- Safety?
- Liquidity?
- Yield?
- Income?
- Total return?



# How Much Risk are You Willing to Take?

## Benchmark Holdings U.S. Treasury Index





## Performance Summary

Benchmark by Sector Merrill Lynch 1-3 Year Indices	Past 10-Year Return as of September 30, 2006
U.S. Treasury Index	4.68%
U.S. Government Index	4.75%
Federal Agency Index	4.92%
U.S. Government/ AAA-A Corporate Index	5.36%

Source: Bloomberg Merrill Lynch Global Bond Indices





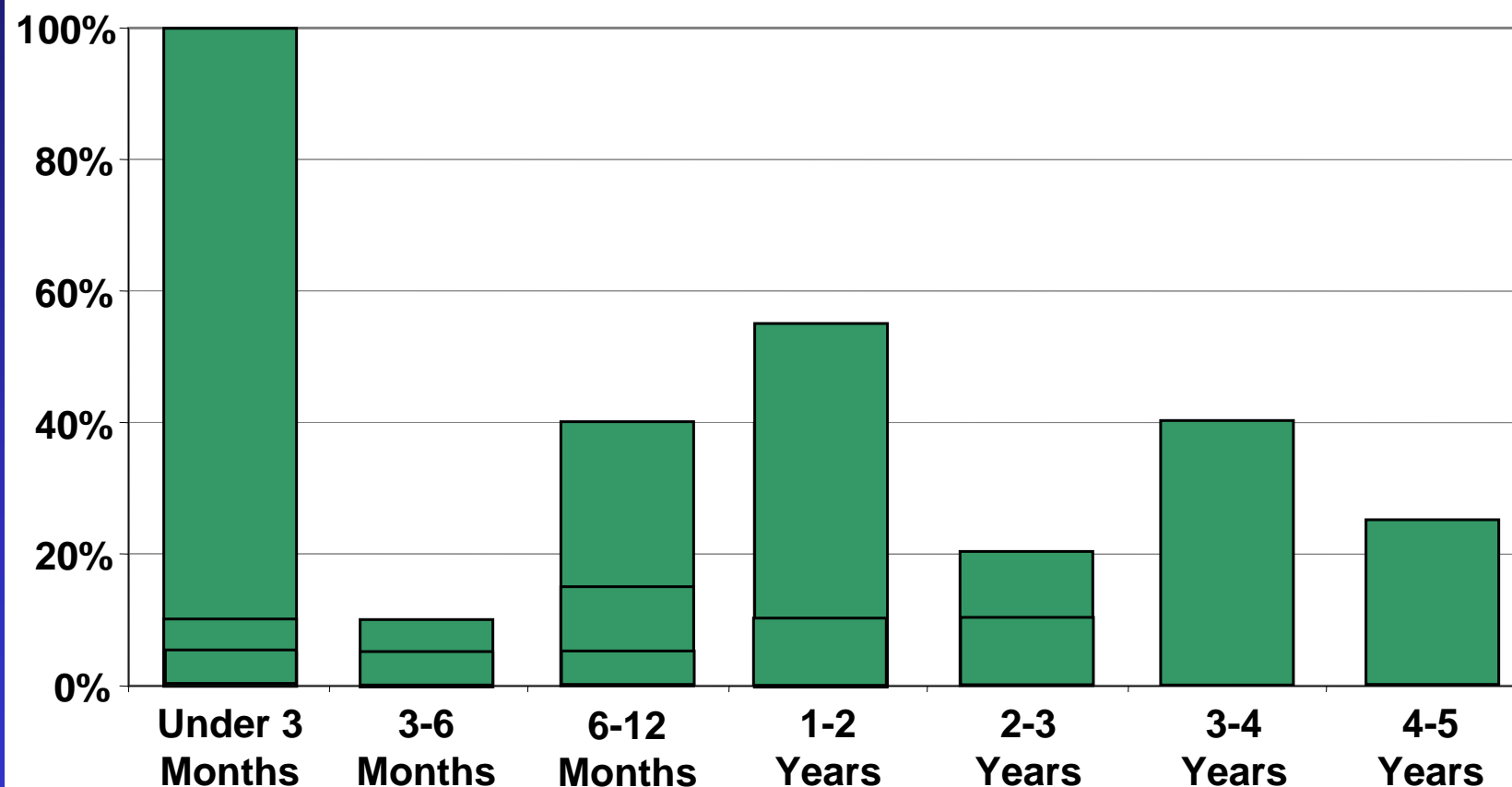
# Selecting an Appropriate Benchmark

## ■ What are the portfolio's priorities?

- Safety?
- **Liquidity?**
- Yield?
- Income?
- Total return?



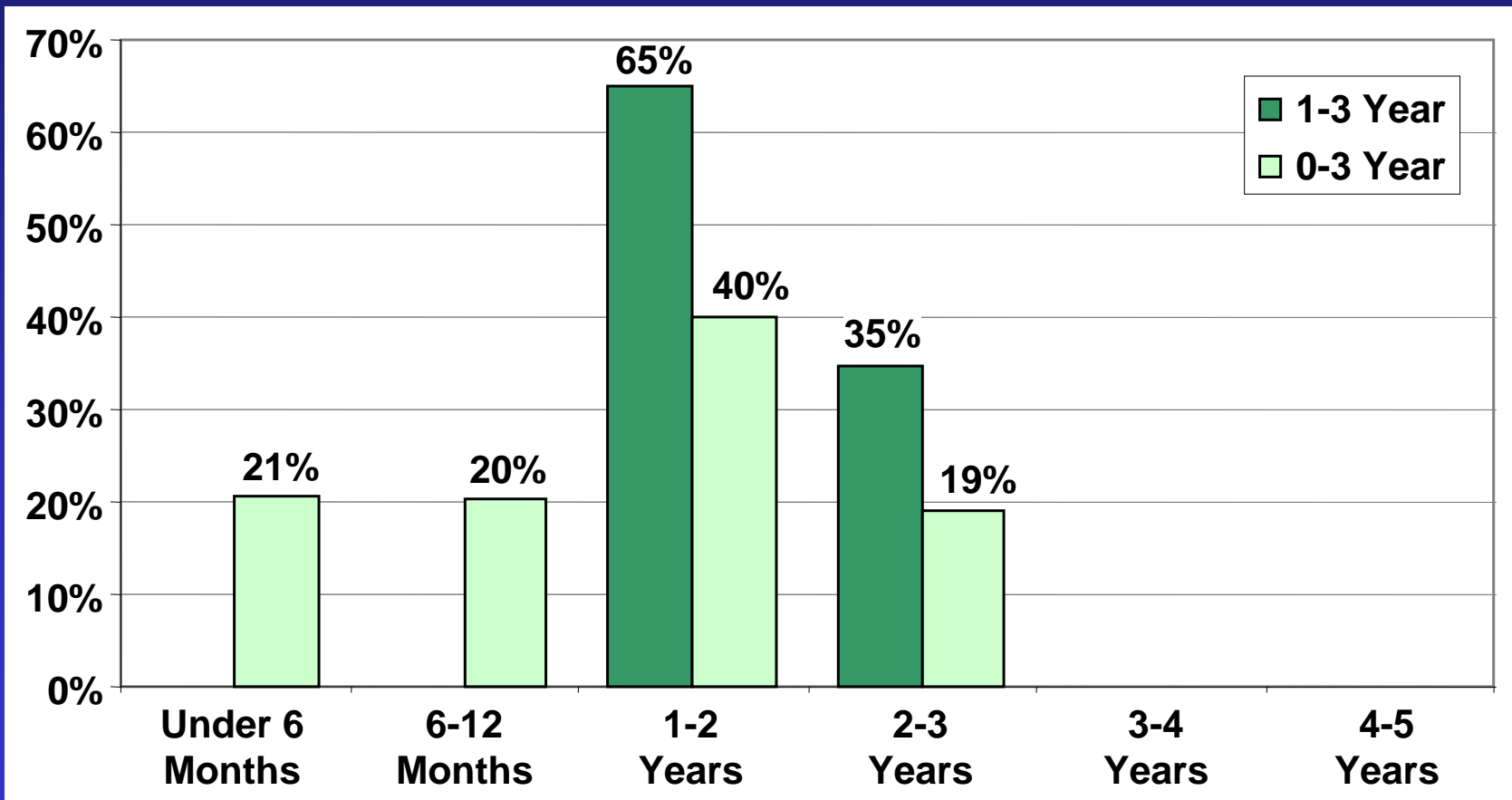
## How Much Liquidity Do You Need?





# Benchmark Maturity Distributions

Merrill Lynch U.S. Treasury Benchmark Holdings  
September 30, 2007

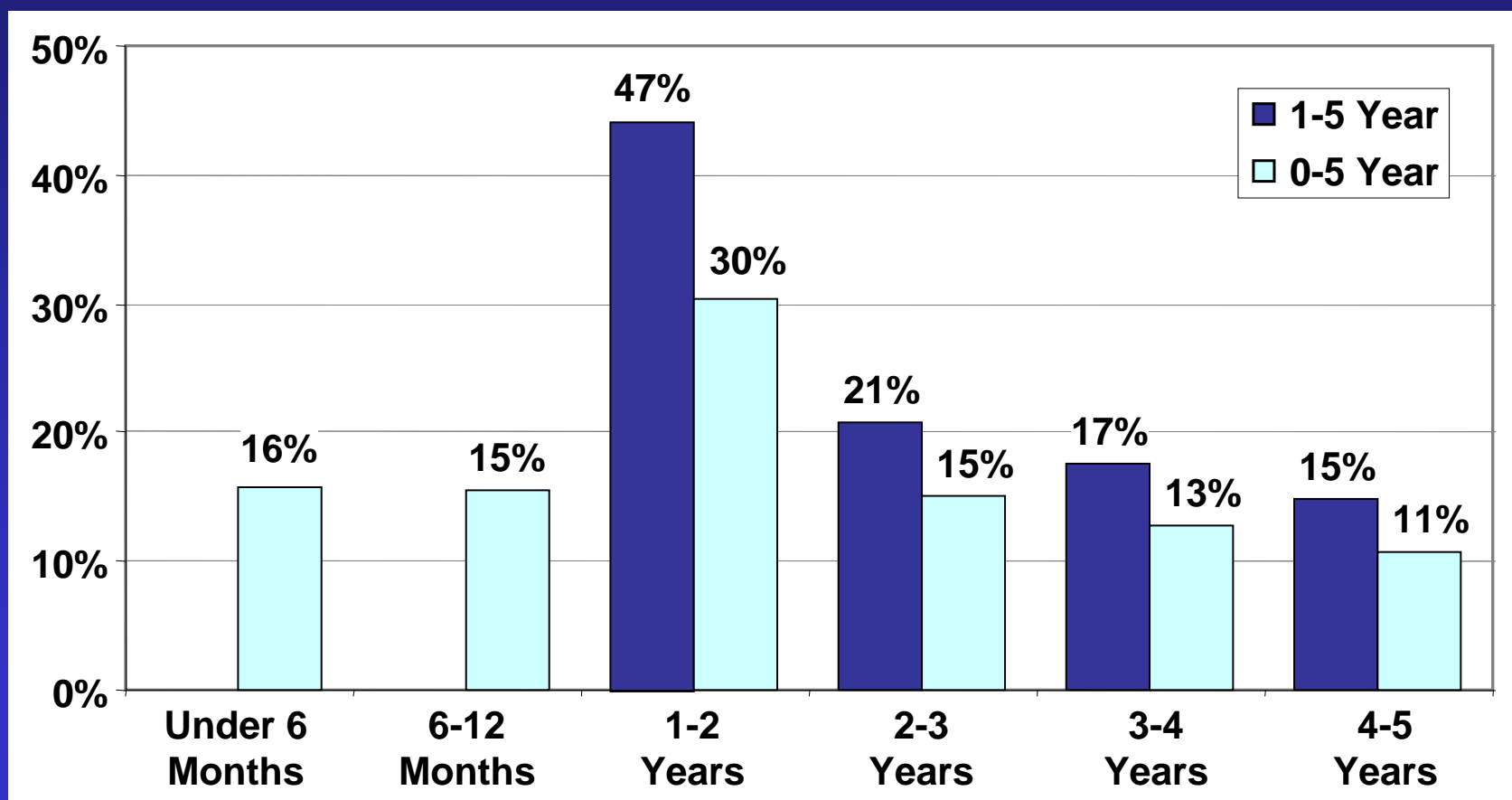


Source: Bloomberg Merrill Lynch Global Bond Indices



# Benchmark Maturity Distributions

Merrill Lynch U.S. Treasury Benchmark Holdings  
September 30, 2007



Source: Bloomberg Merrill Lynch Global Bond Indices



## Performance Summary

Benchmark by Maturity Merrill Lynch U.S. Treasury Indices	Past 10-Year Return as of September 30, 2006
3-Month Index	3.79%
1-Year Index	4.22%
1-3 Year Index	4.68%
3-5 Year Index	5.60%

Source: Bloomberg Merrill Lynch Global Bond Indices



# Selecting an Appropriate Benchmark

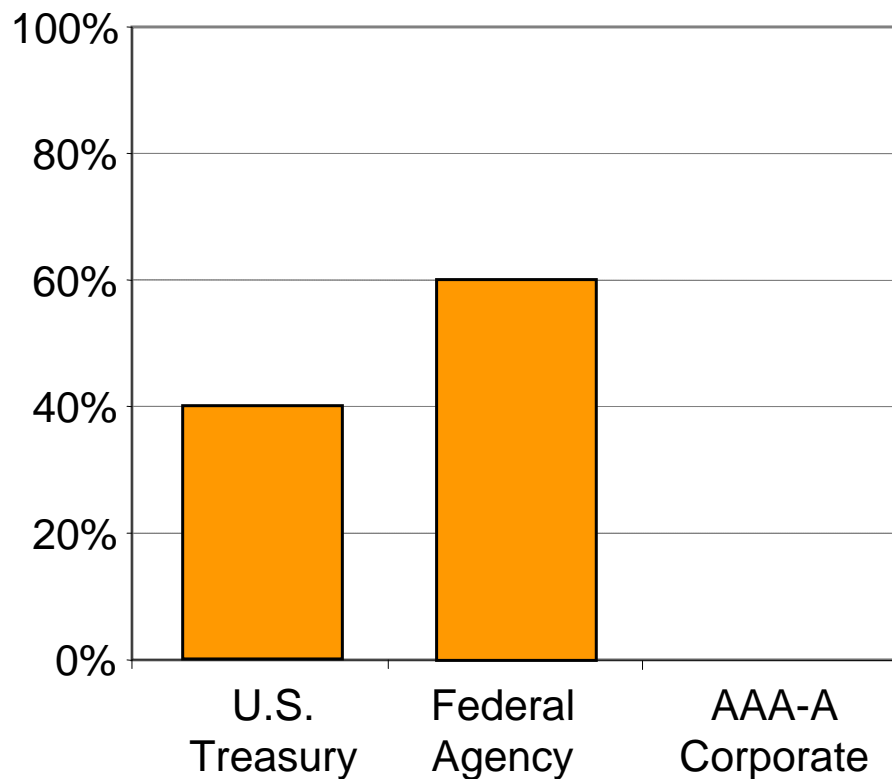
## ■ What are the portfolio's priorities?

- Safety?
- Liquidity?
- Yield?
- Income?
- Total return?

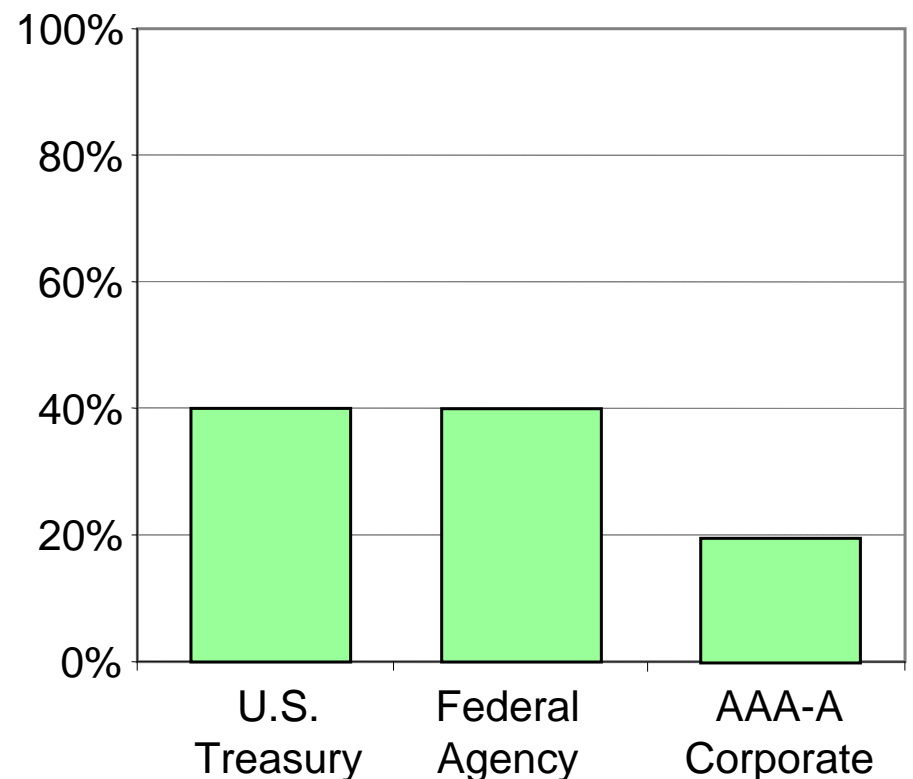


# Yield Benchmark

## Orange City Yield: 4.75%



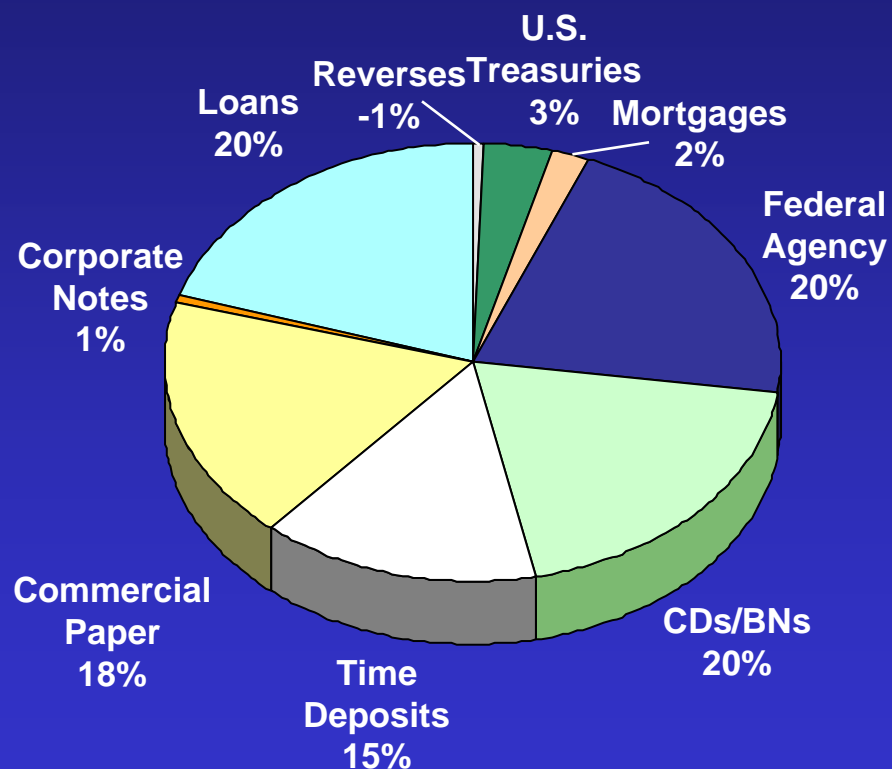
## Town of Apple Yield: 5.00%



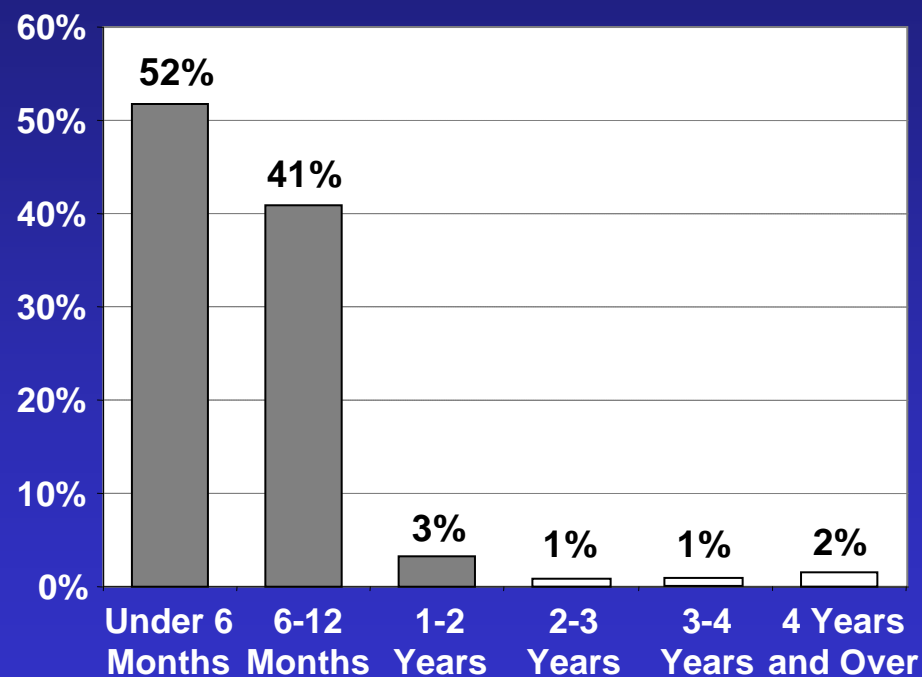


# LAIF as a Benchmark

**Sector Allocation**  
September 30, 2007



**Maturity Distribution**  
September 30, 2007



Source: LAIF website





# Selecting an Appropriate Benchmark

## ■ What are the portfolio's priorities?

- Safety?
- Liquidity?
- Yield?
- Income?
- Total return?



# Selecting an Appropriate Benchmark

## ■ What are the portfolio's priorities?

- Safety?
- Liquidity?
- Yield?
- Income?
- **Total return?**



## Total Return

- Includes interest earnings, realized gains/losses and *unrealized* gains/losses
- Assumes all holdings are sold at market rates
- Standard for longer-term funds



## Benchmark Sector

- Treasury
- Federal Agency
- Government
- Government/Corp A-AAA
- Custom



## Benchmark Maturity Range

■ 3-Month

■ 1-5 Year

■ 0-3 Year

■ 3-5 Year

■ 1-3 Year

■ Custom

■ 0-5 Year



## Benchmark Publisher

- Merrill Lynch
- Salomon Smith Barney
- Lehman Brothers



## Benchmark Examples

### Yield Benchmarks

- S&P LGIP Government Fund Index
- iMoneyNet Total Government Taxable Index

### Total Return Benchmarks

- Salomon Smith Barney 1-Year Treasury Index
- Lehman Brothers 1- 3 Year Treasury Index
- Merrill Lynch 3-5 Year Federal Agency Index
- Salomon Smith Barney 3-7 Year Treasury Index
- Merrill Lynch 1-5 Year Government/AAA-A Corporate Index

- **Determine your performance priorities**
- **Develop your long-term investment strategy**
- **Establish your benchmark**
- **Make investment decisions with your priorities, strategy, and benchmark in mind**



**Thank You!**



## Comparison of Investment Benchmarks

### Risk/Return of Various U.S. Treasury Benchmarks 10 Years ended September 30, 2007

Merrill Lynch Index	Duration	Overall Return	Cumulative Value of \$25 million	Quarters with Negative Return
3-Month	0.16 Years	3.79%	\$36,273,200	0 out of 40
6-Month	0.40 Years	3.99%	\$36,975,700	0 out of 40
1-Year	0.89 Years	4.22%	\$37,811,100	1 out of 40
1-3 Year	1.64 Years	4.68%	\$39,505,400	2 out of 40
1-5 Year	2.28 Years	4.97%	\$40,608,200	6 out of 40
3-5 Year	3.55 Years	5.60%	\$43,140,800	14 out of 40

Source: Bloomberg Merrill Lynch Global Bond Indices

# Long-Term Impact

Yield on 2-Year U.S. Treasury Notes  
1997 - 2006



Treasury Index	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	10-Yr Return
3-Month	5.33%	5.23%	4.85%	6.18%	4.42%	1.78%	1.15%	1.33%	3.07%	4.85%	3.80%
1-3 Year	6.66%	7.00%	3.06%	7.97%	8.30%	5.76%	1.90%	0.90%	1.67%	3.96%	4.68%
Difference	1.33%	1.77%	-1.79%	1.79%	3.88%	3.98%	0.75%	-0.43%	-1.40%	-0.89%	0.88%

Source: Bloomberg Merrill Lynch Global Bond Indices